

What is claimed is:

1. A nucleic acid fragment comprising a polymorphic site of SEQ ID NO: 1 having adenine (A) at position 1699, or a polymorphic site of SEQ ID NO: 3 having thymine (T) at position 29, and comprising more than 10 contiguous nucleotides derived from nucleotide sequence set forth in SEQ ID NO: 1 or 3, or a complement thereof.
2. The nucleic acid fragment of claim 1, wherein the nucleic acid fragment comprises 10 to 100 contiguous nucleotides, or a complement thereof.
3. An allele-specific oligonucleotide hybridizing to the nucleic acid fragment of claim 1 or a complement thereof.
4. The allele-specific oligonucleotide of claim 3, wherein the oligonucleotide is a probe.
5. The allele-specific oligonucleotide of claim 3, wherein the oligonucleotide is a primer.
6. The allele-specific oligonucleotide of claim 5, wherein the 3' end of the primer is arranged with the polymorphic site of the nucleic acid fragment.
7. A method for analysing a nucleic acid comprising determining a nucleotide sequence of the polymorphic site at position 1699 of SEQ ID NO: 1 or at position 29 of SEQ ID NO: 3.
8. The method of claim 7, wherein if the nucleotide sequence of the polymorphic site at position 1699 is A or the nucleotide sequence of the polymorphic site at position 29 is T, it is determined that there is an increased risk for maturity onset of diabetes of the young (MODY).
9. A variant or fragment of human HNF-1 $\alpha$  polypeptide, comprising a polymorphic site of an amino acid at position 567 of SEQ ID NO: 2, and comprising more than 10 contiguous amino acids derived from the amino acid sequence of SEQ

ID NO: 2.

10. The variant or fragment of HNF-1 $\alpha$  polypeptide of claim 9, wherein the amino acid at position 567 is isoleucine.

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11. A method for analyzing a protein comprising determining the amino acid sequence at a position 567 of SEQ ID NO: 2.

10 12. The method for analyzing a protein of claim 11, wherein if the amino acid at position 567 is isoleucine, it is determined that there is an increased risk for maturity onset diabetes of the young (MODY).